

Windows Presentation Foundation Syllabus

Text book: *Pro WPF in C# 2010* by Matthew MacDonald, Apress

Course Title: *Windows Presentation Foundation: Creating User Interface Applications on Windows*

This ten-meeting instructor-led course provides students with the knowledge and skills to build and configure a Windows Presentation Foundation (WPF) solution. Class provides information on the new WPF standard controls, XAML, control styles and templates, Windows Forms interop, FlowDocuments, 2D rendering, and sound/video media. An overview of 3D support is also provided. This course is intended for application developers who know how to build simple Windows Forms applications in .Net, and how to use the common features of the .Net base class library. Please note that students can be successful in this course without prior knowledge of advanced UI threading, asynchronous programming, building custom controls from scratch, GDI, building Visual Studio add-ins, or custom designers.

Prerequisites: Before attending this course, students should have intermediate experience developing applications using .Net 2.0, previous work with Windows Forms is suggested, but not required.

Meeting Timeline

Meeting 01

- Module 01 Intro, key language topics and tools, XAML, First WPF application and brief intro to MVVM design pattern.
- Reading: MacDonald: Chapters 1,2 ; MSDN: help topics for language features

Meeting 02

- Module 02: Layout and panels
- Reading: MacDonald: Chapters 3
- Lab

Meeting 03

- Module 03: Built in basic controls
- Module 04 DependencyProperty, RoutedEvent
- Reading: MacDonald: Chapters 4, 5, 6

Meeting 04

- Module 05 Application, Windows (top-level frame and dialogs), Navigation Apps
- Module 06 Commands (RoutedCommand, ICommand, Command Bindings)
- Module 07 Resources and Styles
- Reading: MacDonald: Chapters 7, 9, 10, 11, 23

- Lab

Meeting 05

- Module 8 2D Graphics
- Module 9 Framework Templates: Control Template and DataTemplate
- Reading: MacDonald: Chapters 12, 13, 14, 17

Meeting 06

- Module 10 Binding
- Module 11 Notification Subsystem: INotifyPropertyChanged and INotifyCollectionChanged
- Reading: MacDonald: Chapters 8, 19, 20
- Lab

Meeting 07

- Module 12 Views, Lists, Trees
- Module 13 Hierarchical controls
- Module 14 Focus
- Reading: MacDonald: Chapters 20, 21, 22

Meeting 08

- Module 15 Documents and Printing
- Module 16 Animation
- Reading: MacDonald: Chapters 28, 29, 15, 16
- Lab

Meeting 09

- Module 17 Threading
- Reading: MacDonald: Chapters 31

Meeting 10

- Module 18 Multi-media: Sound and Video
- Module 19 3D Overview
- Module 20 Custom Controls
- Module 21 Custom Commands: Command Sources
- Reading: MacDonald: Chapters 26, 27, 18
- Lab